



School Streets evaluation

Assessing the impact of interventions at nine sites in Westminster

December 2022





Executive Summary



Westminster City Council launched 'School Streets' trials at a number of schools in Westminster in January 2022.

The scheme aims to create safer spaces around schools during school drop-off and collection times, to encourage pupils to walk, cycle and scoot on school journeys in an environment where the risk of collision with motor vehicles is reduced.



The School Street trials

School Streets were rolled out for up to 18 months at 12 different sites. During restricted times, any motorised traffic is prohibited to enter the School Street. Exemptions are available for residents, Blue badge, White badge and emergency vehicles.

As part of the interventions, extensive signage was installed at all sites and some boundary areas. Some School Streets were also equipped with CCTV enforcement cameras over the course of the trial.

Evaluation

Westminster City Council worked with VivaCity to install traffic monitoring sensors at nine of the 12 locations. The sensors collect traffic counts and movements on motorised vehicles, pedestrians and cyclists 24/7.

To understand the success of the schemes, motorised traffic volumes during restrictions are compared against hourly tolerance levels.

In addition, the council is running a public consultation to gather feedback on the schemes.

Executive Summary



Motorised traffic volumes during restricted times are relatively low

Average hourly motorised vehicle counts are fairly low across all sites ranging between 4-89 vehicles per hour.

Only two School Streets record hourly motorised vehicles above the threshold (ARK Atwood Academy Primary, St Mary Magdalene's CE Primary School). Evidence therefore suggests that School Streets are successful in reducing motor vehicles without fixed methods of enforcement.

Traffic volumes tend to be consistent over time

Average motorised traffic volumes during restricted times are fairly consistent over time. However, during the short monitoring period, it is difficult to draw full conclusions about the long-term impact of the schemes at this stage.

Four School Streets show a more notable difference in motorised vehicle counts between morning and afternoon restrictions.

Pedestrian tracks suggest safe environments for people walking

Pedestrians make good use of pavements across all sites, but tracks also show a fair amount of crossing behaviour as well as pedestrians walking on the carriageway. This might suggest that students feel comfortable moving freely around the School Streets during the times of operation.

Cyclist counts at all sites are low, suggesting that not many students or their parents are cycling to school.

Executive Summary



Overall, the majority of School Streets have been successful in reducing the number of motorised vehicles during school drop off and pick up times. Even without CCTV enforcement levels have dropped at most sites.

It seems the schemes provide a safe environment for walking to school but have not lead to an increase in journeys made cycling. It will be important to continue monitoring traffic levels and also understand the wider impact of the schemes on boundary areas.

Overview by site

School	Above / below threshold	Key findings
ARK Atwood Academy Primary School	7	Motorised traffic is 12.6% above the tolerance level (79). A slight downward trend could indicate that CCTV enforcement is helping to reduce restricted traffic. Afternoon restrictions could extend to cover high pedestrian volumes .
St Mary Magdalene's CE Primary School	7	Motorised traffic is 3x higher than the tolerance level (3) suggesting that CCTV enforcement could be beneficial at this location . Relatively high levels of traffic at Senior St are also posing a risk to many students crossing.
All Souls CE Primary School	Ŋ	Motorised traffic is almost zero at this location and higher outside the restricted hours, suggesting that the scheme is working.
Barrow Hill Junior School	Z	Motorised traffic is close to zero at this location and higher outside restricted hours, suggesting the scheme is working. Restricted hours could extend to better cover times with high pedestrian volumes.
George Eliot Primary School	Z	Motorised traffic is well below the tolerance level at this site. Relatively high pedestrian levels in the early morning are not covered by the restrictions. If those counts are linked to the school, restricted times could be extended .
Hampden Gurney CE Primary School	Z	Motorised traffic is close to zero at this location, suggesting the scheme is working. Restricted hours could extend in the morning , to better cover times with high pedestrian volumes.
Queens Park Primary School	Z	Motorised traffic is well below the tolerance level and higher outside restricted hours, suggesting the scheme is working. There is a slight increase in motorised traffic over time which will be important to continue monitoring.
St Matthew's CE Primary School	K	Motorised traffic is close to zero at this location and higher outside restricted hours, suggesting the scheme is working. High pedestrian volumes are well covered by the timed restrictions.
St Peter's Eaton Square CE Primary School	Z	Motorised traffic is well below the tolerance level at this site. Relatively high pedestrian levels in the early morning are not covered by the restrictions. If those counts are linked to the school, restricted times could be extended .





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Introduction

School Streets | Westminster Schemes | Method

School Streets overview



What

A School Street is timed closure outside a school with a temporary restriction on certain motorised traffic at school drop-off and pick-up times. The restriction applies to school traffic and through traffic unless vehicles are granted exemptions.

Interventions usually include the installation of signage and can also make use of cameras or physical barriers (bollards) or marshalls to enforce the temporary restriction.

Why

Roads around schools during peak times are often dominated by cars contributing to high levels of pollution and increased risks to pedestrians and cyclists. Road safety continues to be a serious issue, particularly on the walk to school. In 2021, there were 4,301 child pedestrian casualties on UK roads¹.

School Streets provide additional space outside of the school creating a safer and healthier environment aimed to encourage active journeys.

How many

There is no official database of all School Streets in the UK (yet). But schoolstreets.org.uk maintains an open source map of School Streets.

Scotland was the first in the UK to introduce the schemes in 2015. In London alone there are over 500 School Streets across 31 London boroughs according to the TfL (March 2022). A big increase from less than 90 School Streets across 20 boroughs in 2019. Over 400 were delivered in response to the coronavirus pandemic.

Westminster School Streets



Westminster City Council launched 'School Streets' trials at a number of schools in Westminster in January 2022. The scheme aims to create safer spaces around schools during school drop-off and collection times, to encourage pupils to walk, cycle and scooter on school journeys.

The schemes are integral to the Fairer Westminster Strategy which aims to encourage travel through Westminster in more active and sustainable ways.

The Trials

School Streets were rolled out under an Experimental Traffic Order (ETO) for up to 18 months.

An aim of 12 sites are taking part (currently 11 in place), with several being equipped with CCTV enforcement cameras.

- 7 CCTV School Streets
- <u>5 non-CCTV School Streets</u>

Exemptions are available for residents, Blue badge, White badge and emergency vehicles.

Data collection

Westminster City Council worked with VivaCity to install traffic monitoring sensors at nine of the 12 locations. The sensors collect traffic counts and analyse movements on motorised vehicles, pedestrians and cyclists 24/7.

In addition, the council is running a feedback <u>questionnaire</u> to gather qualitative views on the schemes and understand their impact.

Westminster School Streets locations



School Street locations

VivaCity sensor data

Before Dec 2022

From Dec 2022

Queens Park Primary School

8:30-9:00 | 15:00-15:45

St Mary Magdalene's CE Primary School

8:15-9:15 | 15:00-16:00

St Mary's of the Angel RC Primary School

8:15-9:15 | 14:45-15:45

ARK Atwood Academy Primary School

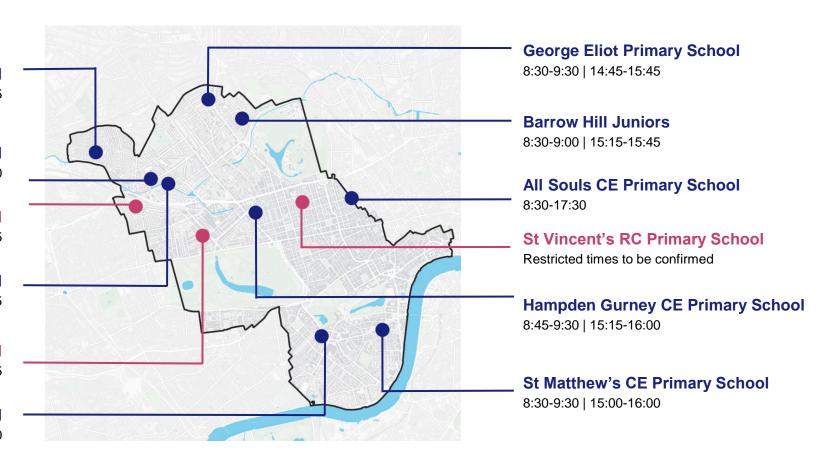
8:25-8:50 | 15:15-15:45

St James and St John CE Primary School

8:15-9:15 | 14:45-15:45

St Peter's Eaton Square CE Primary School

8:30-9:30 | 15:00-16:00



Method



Overview of School Streets data and thresholds

School	Road	Data from	Times of operation	Daily traffic counts ¹	Hourly tolerance level
All Souls CE Primary School	Riding House Street	25/01/2022	8.30-17:30	7,691	48
ARK Atwood Academy Primary School	Amberley Road	25/01/20224	8:15-9:00 ² ; 15:15-15:45	12,589	79
George Eliot Primary School	Marlborough Hill	01/04/2022	8:30-9:30; 14:45-15:45	11,160	70
Barrow Hill Junior School	Bridgeman Street	26/05/2022	8:30-9:00; 15:15-15:45	18,889	118
Queens Park Primary School	Droop Street	26/05/2022	8:30-9:00; 15:00-15:45 ³	14,239	89
St Matthew's CE Primary School	St Ann's Street	26/05/2022	8:30-9:30; 15:00-16:00	10,161	63
Hampden Gurney CE Primary School	Forset Street	09/09/2022	8:45-9:30; 15:15-16:00	10,543	66
St Mary Magdalene CE Primary School	Rowington Close	09/09/2022	8:15-9:15; 15:00-16:00	1,972	12
St Peter's Eaton Square CE Primary School	Lower Belgrave Street	09/09/2022	8:30-9:30; 15:00-16:00	32,800	205

To understand the success of the School Street schemes, motorised traffic volumes were compared against an hourly tolerance level. These levels are shown in the table to the left and are based on historic counts (pre-scheme).

Traffic counts in 15 minute time buckets from VivaCity sensors were classified as inside or outside scheme operating hours. Average counts were calculated for school terms and extrapolated to compare against the hourly threshold. Active travel volumes and pedestrian movements were also analysed.

See the appendix for a more <u>detailed</u> <u>methodology</u>.

¹ Historic data | ² Adjusted from 8:25-8:50 | ³ Adjusted from 15:00-15:40 | ⁴ Data excluded from July





Key findings

Overall impact | Patterns and trends

Overall impact



Motorised traffic volumes during restricted times are relatively **low** across all sites. **Only two School Streets record hourly motorised vehicles above the threshold**.

All sites have entry signs only at each location. On the whole, the data shows that restrictions are working successfully to reduce motor vehicles at the School Streets.

Active travel modes (walking or cycling) make up more than 79% of all road users across all School Streets.

Overview of traffic volumes during restricted times by site

Average hourly counts and comparison against threshold (tolerance level)

School	Restricted times	Motorised vehicles	Diff to threshold	Pedestrians	Active Travel Share
ARK Atwood Academy Primary School	8:15-9:00; 15:15-15:45	89	7 10 (13%)	464	84%
George Eliot Primary School	8:30-9:30; 14:45-15:45	44	y ^{26 (-37%)}	159	79%
St Mary Magdalene's CE Primary School	8:15-9:15; 15:00-16:00	38	7 26 (209%)	172	83%
Queens Park Primary School	8:30-9:00; 15:00-15:45	27) 62 (-70%)	252	91%
St Peter's Eaton Square CE Primary School	8:30-9:30; 15:00-16:00	25) 180 (-88%)	884	97%
All Souls CE Primary School	8.30-17:30	12	3 6 (-75%)	111	99%
St Matthew's CE Primary School	8:30-9:30; 15:00-16:00	9	3 54 (-86%)	173	96%
Barrow Hill Junior School	8:30-9:00; 15:15-15:45	5	为 113 (-96%)	312	98%
Hampden Gurney CE Primary School	8:45-9:30; 15:15-16:00	4	3 62 (-94%)	200	98%

Created with Datawrapper 15

Trends over time



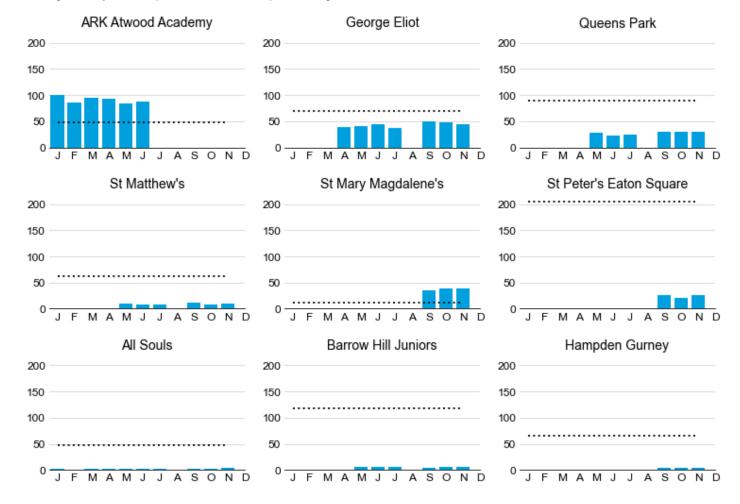
Average motorised traffic volumes during restricted times appear to be fairly consistent over time.

There is a small downward trend at ARK Atwood Academy (100 in January vs 87 in June), while levels at George Eliot seem to be slightly higher towards the end of the year.

However, due to relatively short monitoring periods spread over time, it is difficult to draw conclusions about the long term impact of the schemes at this stage.



Average hourly counts per month and comparison againstthreshold



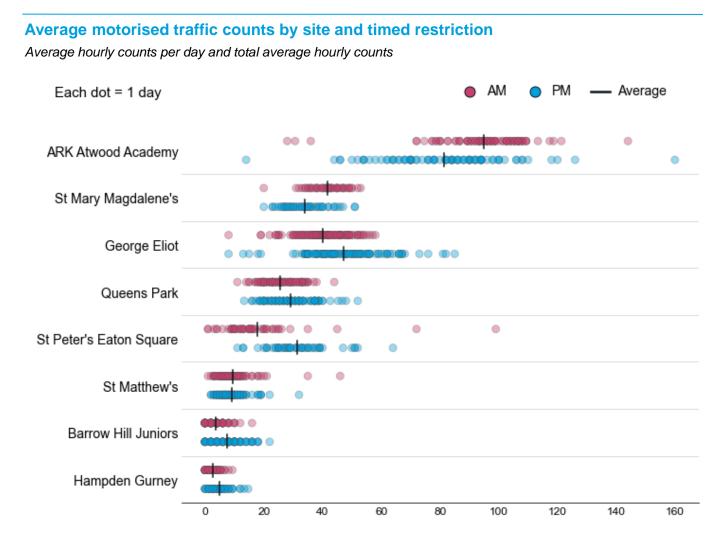
Morning versus afternoon restrictions



Average motorised traffic counts vary greatly on a daily basis across all sites, especially at ARK Atwood Academy and George Eliot.

Outliers for some sites could be linked to specific School events or road works leading to diversions.

Morning restrictions see more vehicles at ARK Atwood Academy and St Mary Magdalene's. Afternoon restrictions see higher vehicles at St Peter's Eaton Square and George Eliot. Differences between AM and PM are less pronounced at the other sites.







Analysis by site

Detailed findings by location

S2: ARK Atwood Academy Primary School



A VivaCity sensor was setup on 9th of January 2022 to monitor the School Street.

RK Atwood rimary Academy Amberley Road is restricted during 8:15-9:00 and 15:15-15:45, and only entry signage was in place.

More information on the intervention and road layout can be found <u>here</u>.

The sensor covers three countlines to monitor road users on the carriage way as well as pavements on both sides. Data since July has been excluded because tree growth partially blocked the sensor's view.

Sensor location and road layout

Sensor image and countlines

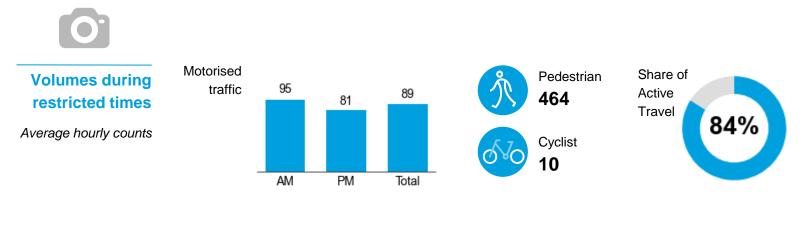


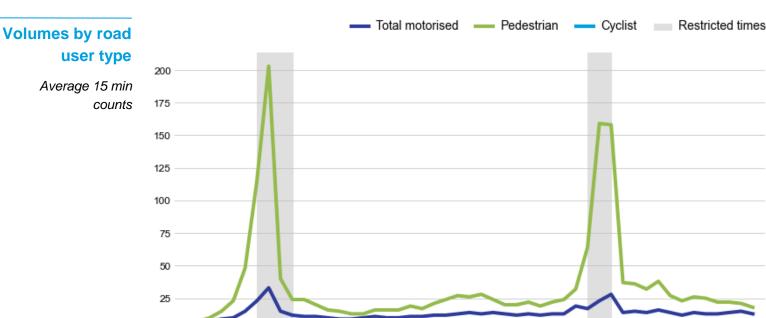
ARK Atwood Academy Primary School: Findings



During restricted times the average number of motorised vehicles recorded is 89, 12.6% above the tolerance level (79). Motorised traffic counts are higher during AM restrictions (95) and generally lower during non restricted times. This suggests that most vehicles could be linked to students being dropped off in the mornings.

Pedestrian levels during School Street times are relatively high (464) while there are few cyclists recorded (10). **Active travel modes make up 84% of all road users** recorded during restrictions.





10:30

11:30

13:30

14:30

15:30

16:30

17:30

08:30

09:30

ARK Atwood Academy Primary School: Findings II



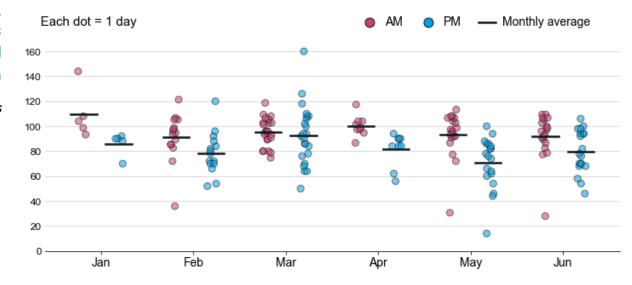
Motorised traffic counts vary daily but tend to be higher in the morning across all months. **Fridays record slightly fewer motorised vehicles** with higher volumes at the beginning of the week.

Pedestrian movements in the morning and afternoon show a high use of the pavements on both sides. There is also a fair amount of crossing behaviour and use of the carriageway, especially along Amberly Road towards the entrance of the school. Pedestrian movements outside restricted hours mirror those within School Street times.



Motorised traffic during restricted times by month

Average hourly counts



Pedestrian movements in AM

Wed 16/03/2022 8:15-9:00



Pedestrian movements in PM

Wed 16/03/2022 15:15-15:45



S4: George Eliot Primary School



A VivaCity sensor was setup on 9th of January 2022 to monitor the road leading to the school entrance.

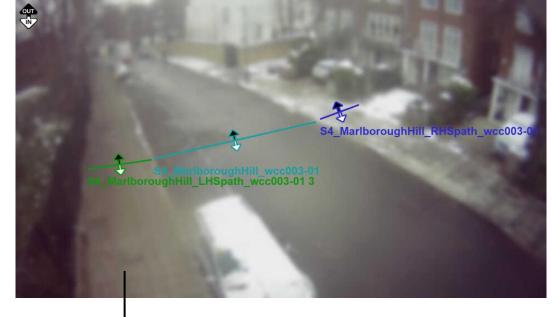
George Eliot Primary School Marlborough Hill is restricted during 8:30-9:30 and 14:45-15:45 and only entry signage was in place.

More information on the intervention and road layout can be found here.

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.

Sensor location and road layout

Sensor image and countlines



George Eliot Primary School: Findings



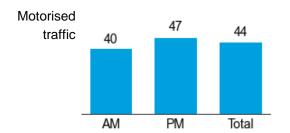
During restricted times the average number of motorised vehicles is 44, almost half the tolerance level (70). Most of the traffic on the street is related to the school or commutes, with relatively low levels at midday. Motorised levels peak just before restrictions occur in the morning, suggesting that there is scope to extend the restriction period.

Pedestrian levels during School Street times are moderately high (159) while there are very few cyclists recorded (3). **Active travel modes make up 79% of all road users** recorded during restrictions.



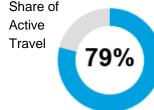
Volumes during restricted times

Average hourly counts



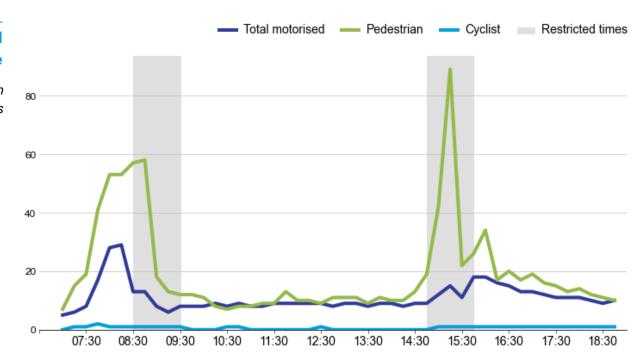


Cvclist



Volumes by road user type

Average 15 min counts



George Eliot Primary School: Findings II



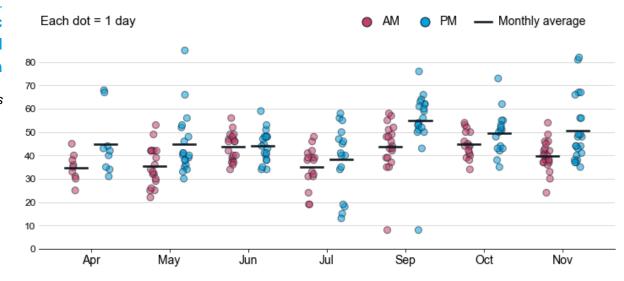
With the exception of June, motorised counts during PM restricted hours are higher than AM. Average hourly counts during PM on Friday (59) are a lot higher than the average hourly counts for any other weekday PM (44-46) and is also much higher than average hourly counts for non-restricted times (40) on Friday.

Pedestrians make good use of both pavements, with the left side path recording a lot of tracks in the morning. There is relatively little crossing movement during restricted hours.



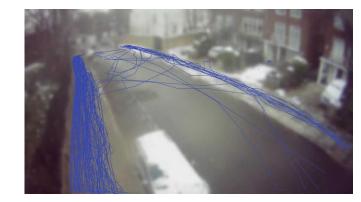
Motorised traffic during restricted times by month

Average hourly counts



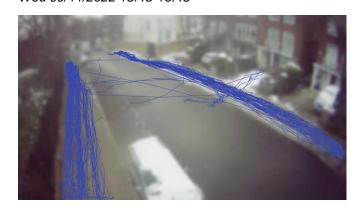
Pedestrian movements in AM

Wed 09/11/2022 8:30-9:30



Pedestrian movements in PM

Wed 09/11/2022 15:45-16:45



S7: All Souls CE Primary School



A VivaCity sensor was setup on 9th of January 2022 to monitor the School Street.

All Souls Cl Primary School Riding House Street is a one way road, restricted during most of the day (8.30-17:30). Only entry signage was in place at time of publication.

More information on the intervention and road layout can be found interest.

Sensor location and road layout

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.



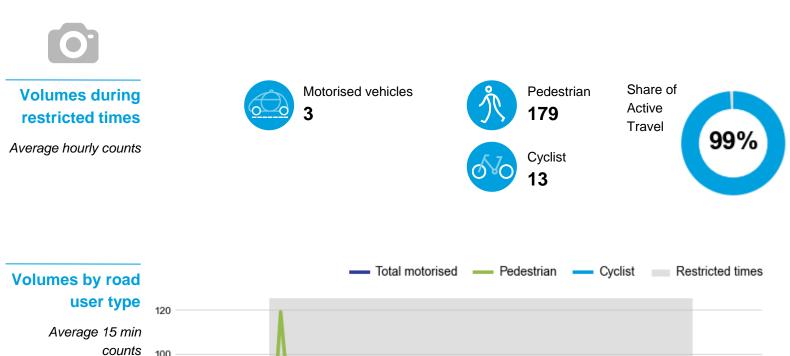


All Souls CE Primary School: Findings



During restricted times the average number of motorised vehicles recorded is almost zero and significantly above the tolerance level (48). Motorised traffic counts are higher outside restricted times (see appendix), suggesting that compliance with the scheme is good.

Pedestrian levels during School Street times are 179 on average while there are few cyclists recorded (13). Active travel modes make up 99% of all road users recorded during restrictions.



All Souls CE Primary School: Findings II



Motorised traffic counts vary slightly per day but remain low over the year. There is a slight increase towards the end of the year with a few more outliers in October and November. Numbers are consistent throughout the week.

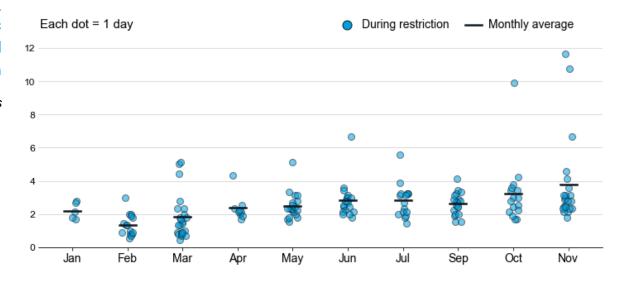
Pedestrian movements in the morning and afternoon show a high use of both pavements with higher levels on the right pavement leading to the school entrance.

There is also regular crossing behaviour, not limited to Pedestrian movements outside restricted hours mirror those within School Street times.



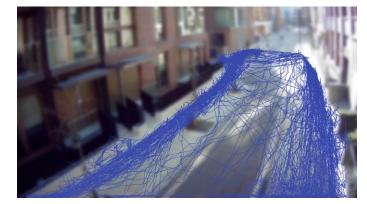
Motorised traffic during restricted times by month

Average hourly counts



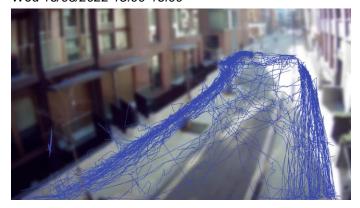
Pedestrian movements in AM

Wed 16/03/2022 8:30-9:30



Pedestrian movements in PM

Wed 16/03/2022 15:00-16:00



S10: St Mary Magdalene's CE Primary School



A VivaCity sensor was setup on 9th of August 2022 to monitor the School Street.

St Mary Magdalene CE Primary School Our Lady Of **Edward Wilson** Delours RC **Primary School** Primary School

Rowington Close leading to St Mary Magdalene's CE Primary School is a cul-de-sac road and restricted during 8:15-9:15 and 15:00-16:00. Only entry signage was in place.

More information on the intervention and road layout can be found here.

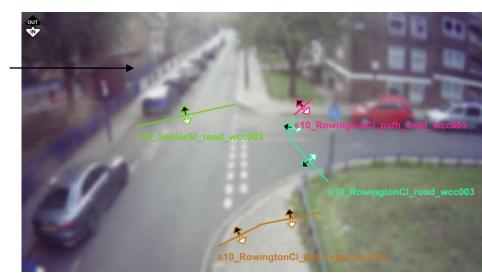
The sensor covers four countlines to monitor road users moving towards St Mary Magdalene's, and across pavements. The analysis excludes Senior Street as it is not part of the scheme.

Towards St Mary
Magdalene School

Sensor location and road layout

Edward Wilson
Primary School
entrance

Sensor image and countlines



St Mary Magdalene's CE Primary School: Findings



During restricted times the average number of motorised vehicles recorded is 38, 3 times higher than the tolerance level (12). Motorised traffic counts are higher during AM restrictions. Counts during non-restricted hours are much lower, suggesting that most of the traffic is linked to the school. This suggests that CCTV enforcement could be beneficial at this location.

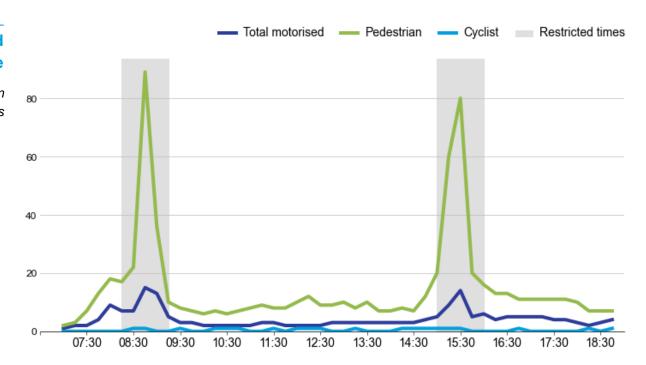
Pedestrian levels during School Street times are moderately high (172) while there are very few cyclists recorded (3). Active travel modes make up 83% of all road users recorded during restrictions





Volumes by road user type

Average 15 min counts



St Mary Magdalene's CE Primary School: Findings II



Motorised traffic counts during AM restrictions are higher than during PM. Across the three months, the average counts stay roughly the same. Within restricted times, motorised counts are the highest on Mondays (41). The same goes for Pedestrians (91). The average motorised traffic counts outside restricted times is similar to the threshold level (12).

Pedestrians utilise the carriageway extensively during restricted times, with high use of the west path on Rowington Close.

Motorised traffic during restricted times by month

Average hourly counts

Sep

AM

PM

Monthly average

AM

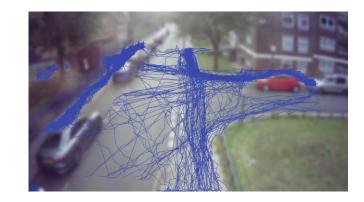
PM

Monthly average

Pedestrian movements in AM Wed 12/10/2022 8:15-9:15



Pedestrian movements in PM Wed 12/10/2022 15:00-16:00



S13: Barrow Hill Juniors



A VivaCity sensor was setup on 26th of May 2022 to monitor the School Street.

Barrow Hill Junior School Bridgeman Street is a one way road and restricted during 8:30-9:00 and 15:15-15:45. There was only entry signage in place.

More information on the intervention and road layout can be found here.

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.

School entrances along Bridgeman Street

Sensor location and road layout

Sensor image and countlines



Barrow Hill Juniors: Findings



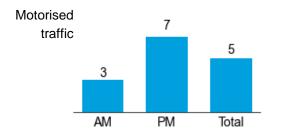
During restricted times the average number of motorised vehicles recorded is 5, which is significantly below the tolerance level (118).

Levels are slightly higher outside restricted times. It would appear that restrictions are working successfully to remove motor vehicles at this School Street without need for CCTV enforcement.

Pedestrian levels during School Street times are high (312) while there are few cyclists recorded (9). Active travel modes make up 98% of all road users recorded during restrictions.

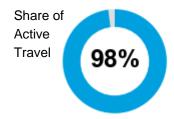
Volumes during restricted times

Average hourly counts



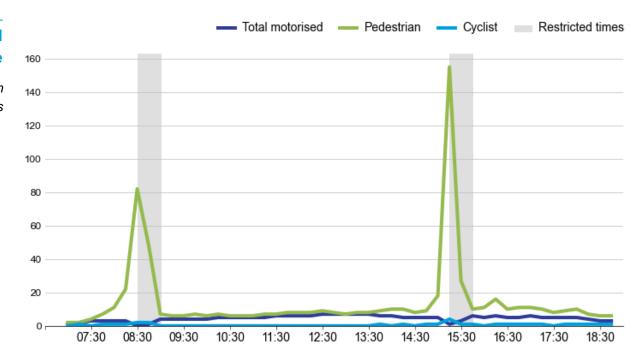






Volumes by road user type

Average 15 min counts



Barrow Hill Juniors: Findings II

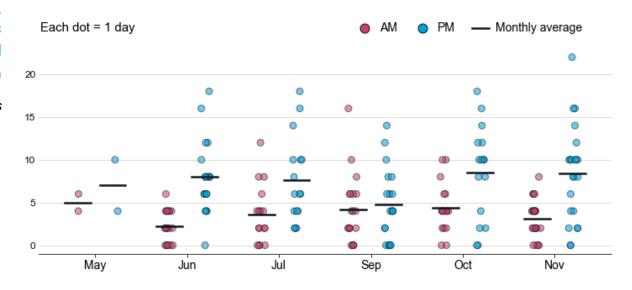


As a result of very low motorised traffic count volumes there is a large amount of spread in the monthly data. Typically traffic counts are lower in the morning than the afternoon.

Pedestrian movements at school end are busier than school start, perhaps as a result of parents waiting for school children outside of the school. Pedestrians use the carriageway for waiting and crossing, particularly in the afternoon.

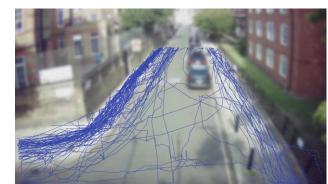
Motorised traffic during restricted times by month

Average hourly counts



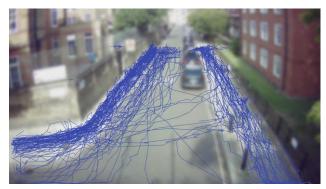
Pedestrian movements in AM

Wed 12/10/2022 8:30-9:00



Pedestrian movements in PM

Wed 12/10/2022 15:15-15:45



S14: Hampden Gurney CE Primary School



A VivaCity sensor was setup on 9th of August 2022 to monitor the School Street.

Hampden Gurney

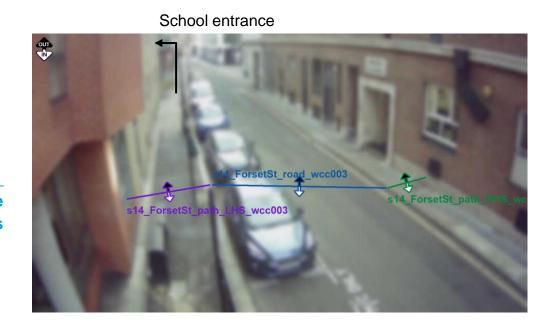
Forset Street is a one way road and restricted during 8:45-9:30 and 15:15-16:00 with only entry signage in place.

More information on the intervention and road layout can be found here.

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.

Sensor location and road layout

Sensor image and countlines



Hampden Gurney CE Primary School: Findings



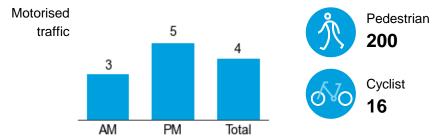
During restricted times the average number of motorised vehicles recorded is 4, which is significantly below the tolerance level (66).

Outside restricted times, levels are slightly higher. Restrictions are working successfully to remove motor vehicles at this School Street without need for CCTV enforcement.

Pedestrian levels during School Street times are high (200) while there are few cyclists recorded (16). Active travel modes make up 98% of all road users recorded during restrictions.

Volumes during restricted times

Average hourly counts

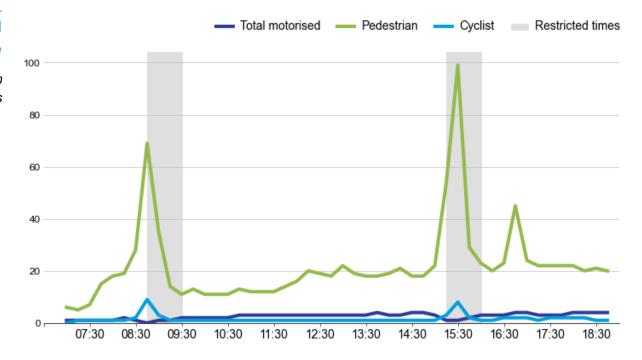


Active Travel 98%

Share of

Volumes by road user type

Average 15 min counts

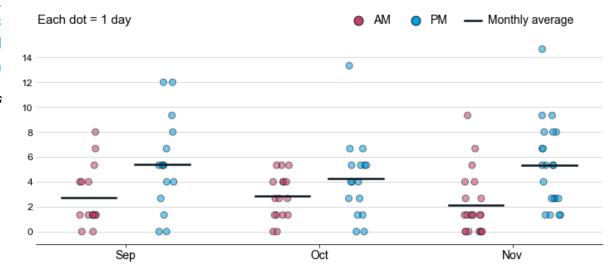


Hampden Gurney CE Primary School: Findings II



Motorised traffic counts vary daily but tend to be lower in the morning across all months. **Tuesdays record the highest number of motorised vehicles** compared to any other day of the week. Motorised traffic during restricted times by month

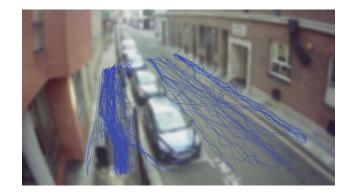
Average hourly counts



Pedestrian movements at school end are busier than school start, particularly on the left hand side towards the entrance of the school. Pedestrians use the carriageway freely, walking towards and away from the school, during restriction hours.

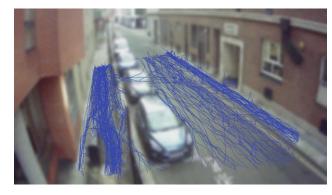
Pedestrian movements in AM

Wed 12/10/2022 8:45-9:30



Pedestrian movements in PM

Wed 12/10/2022 15:15-16:00



S15: Queens Park Primary School



A VivaCity sensor was setup on 26th of May 2022 to monitor the School Street.

Queen's Park Primary School Droop Street is restricted during 8:30-9:00 and 15:00-15:40 and only entry signage was in place.

More information on the intervention and road layout can be found here.

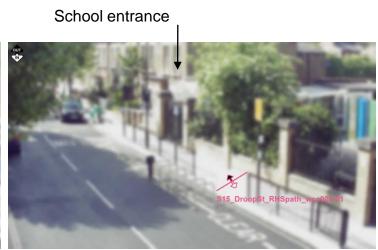
Sensor location and road layout

School entrance

S15 DroopSt road wcc003-01
S 5 DroopSt L *Spain vcc003-01

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.

Sensor image and countlines

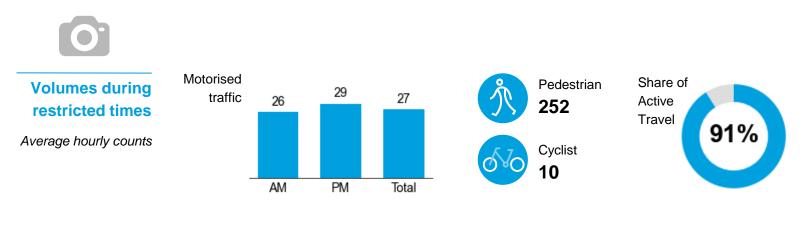


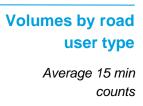
Queens Park Primary School: Findings

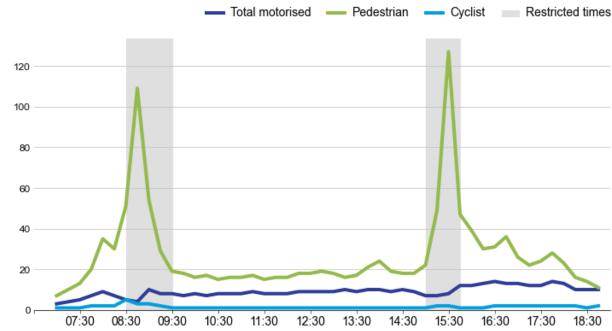


During restricted times the average hourly number of motorised vehicles recorded is 27, significantly below the tolerance level (89). Motorised traffic counts are slightly higher outside restricted times, suggesting that the scheme has been deterring motorised vehicles in peak school hours.

Pedestrian levels during School Street times are relatively high (252) while there are few cyclists recorded (10). **Active travel modes makeup 91% of all road users** recorded during restrictions.





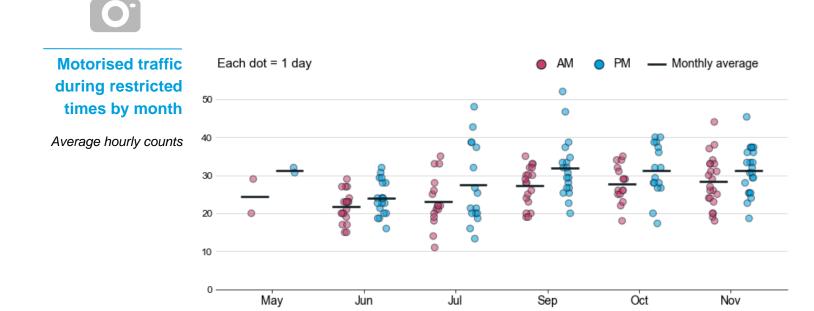


Queens Park Primary School: Findings II



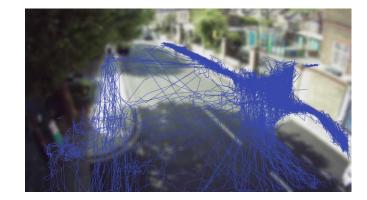
There is a slight increase in motorised vehicle counts from June to December. Motorised counts are consistently higher during PM restricted times across all months. Even outliers are still below the threshold.

What is notable is that pedestrians cross the road in many different ways, utilising most of the carriageway. Pedestrian movements concentrate on the right side path leading to the school entrance, which is also busier than the left side path outside restricted times.



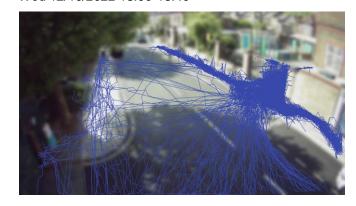
Pedestrian movements in AM

Wed 12/10/2022 8:30-9:00



Pedestrian movements in PM

Wed 12/10/2022 15:00-15:40



S18: St Matthew's CE Primary School



A VivaCity sensor was setup on 26th of May 2022 to monitor the School Street.

St Ann's Street is a single carriageway road and restricted during **8:30-9:30** and **15:00-16:00**. There was only entry signage in place.

More information on the intervention and road layout can be found <u>here</u>.

Sensor location and road layout

r location

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.

School entrance



Sensor image and countlines

St Matthew's CE Primary School: Findings

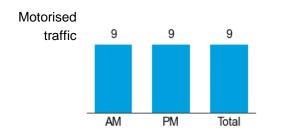


During restricted times the average number of motorised vehicles recorded was just nine, well below the tolerance level (63). Motorised traffic dropped during the restricted times, but not at midday. This shows the success of the School Street here and offers scope to extend throughout the day.

Pedestrian traffic during School Street times and during lunch are relatively high (173), and cyclists peak in the AM restricted time and during PM rush hour. Active travel modes make up 96% of all road users recorded during restrictions.

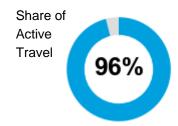


Average hourly counts



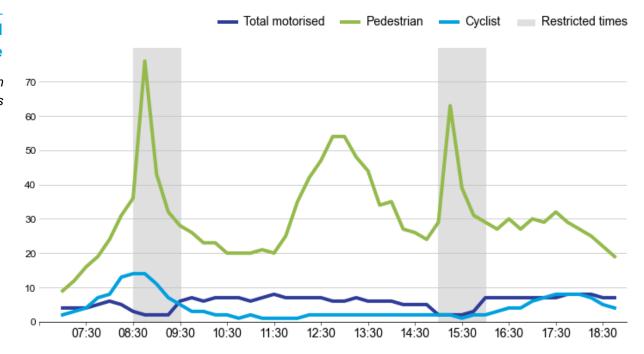






Volumes by road user type

Average 15 min counts



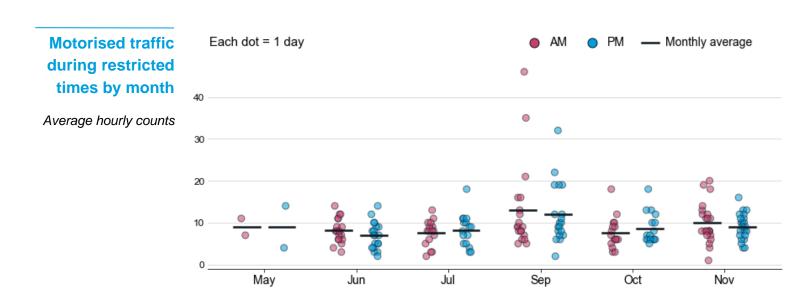
St Matthew's CE Primary School: Findings II



Motorised traffic counts are consistent across AM and PM, as well as across days of the week.

Fridays record slightly fewer active travel modes with higher volumes at the beginning of the week. September was the busiest month, with all 5 of the busiest days occurring in this month.

Pedestrians utilise the carriageway for crossing and walking in both the AM and PM. Pedestrian movements outside restricted hours mirror this behaviour, supporting the evidence for extending operating hours beyond current restrictions.



Pedestrian movements in AM Wed 12/10/2022 8:30-9:30



Pedestrian movements in PM

Wed 12/10/2022 15:00-16:00



S19: St Peter's Eaton Square CE Primary School



A VivaCity sensor was setup on 9th of September 2022 to monitor the School Street near Victoria Station and bordering busy A-roads.

Lower Belgrave Street has a wide pavement in front of the school entrance and carriageway usage is restricted during 8:30-9:30 and 15:00-16:00 with only entry signage in place.

More information on the intervention and road layout can be found here.

The sensor covers three countlines to monitor road users on the carriageway as well as pavements on both sides of the road.

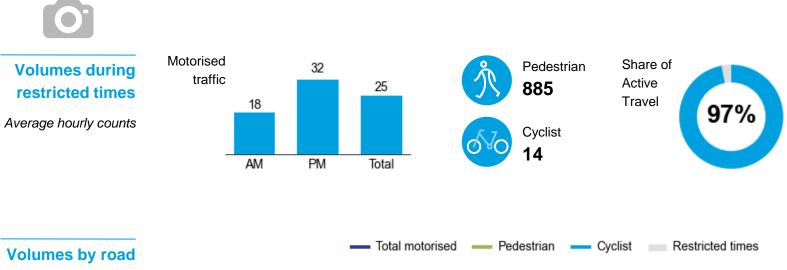


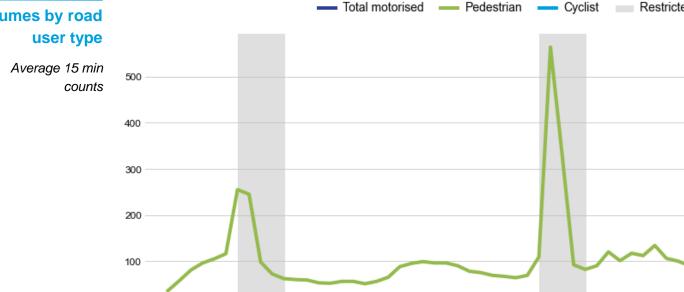
St Peter's Eaton Square CE Primary School: Findings



During restricted times the average number of motorised vehicles recorded is **25**, **significantly below the tolerance level (205)**. Motorised traffic counts are higher during PM restrictions (32) and generally lower than outside restricted times (44).

Pedestrian levels during School Street times are high (885) while there are few cyclists recorded (14). Active travel modes make up 97% of all road users recorded during restrictions.





10:30

11:30

12:30

14:30

15:30

16:30

17:30

18:30

13:30

08:30

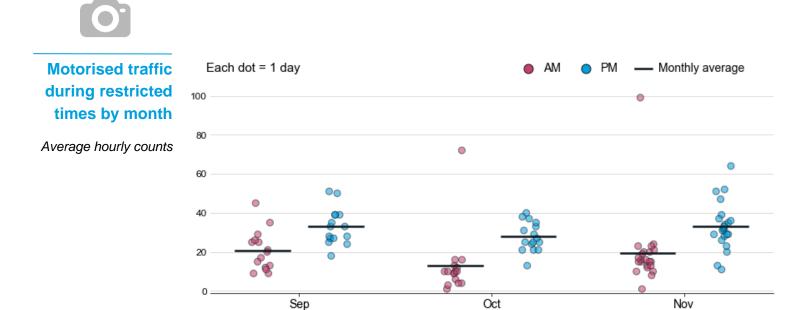
09:30

St Peter's Eaton Square CE Primary School: Findings II



Motorised traffic counts tend to be higher in the afternoon across all months, and are consistent across weekdays. Motorised traffic outside restricted times increased month on month but remained stable within restrictions, demonstrating compliance.

Pedestrian movements in the morning and afternoon show high use of the pavements on both sides. The carriageway is well-utilised for crossing during restricted hours. This was not mirrored outside of restriction with less congregation outside the school entrance.



Pedestrian movements in AM



Pedestrian movements in PM

Wed 12/10/2022 15:00-16:00







Appendix

About VivaCity | Methodology | Data tables

About VivaCity



Market-leading computer vision traffic insights



VivaCity's Al-powered computer vision sensors gather accurate, detailed and anonymous 24/7 data on transport networks, providing customers with detailed data insights on modal share, traffic flow, travel patterns, and more.

Our market-leading solution combines state-of-the-art edge processing with advanced machine learning algorithms, enabling sensors to identify, classify and track a wide range of road users in their field of view.

Road user classes include motorised vehicles as well as pedestrians, cyclists and e-scooters. Data sets are available in different time buckets ranging from 5 minute intervals to 24 hours.

Optimised for <u>long-term monitoring</u> use, these datasets equip Local Authorities and transport planners with the evidence they need to support data-led decision making.

VivaCity works with the <u>majority of</u> <u>London boroughs</u> and is <u>trusted by</u> <u>Transport for London</u> for network monitoring.

About VivaCity



Data sets and Capabilities

Classified Counts: Detection and counting of a broad range of road users, including pedestrian, cyclist, e-scooter, motorbike, car, taxi, van/LGV, OGV 1, OGV 2, bus.

Sensor image: A blurred sensor image helps gain further insights and understand abnormal behaviours on a live data feed.

Paths: Track the paths road users take across the sensor's field to understand space usage.

Journey Time: Explore how long it takes road users to travel between sensors to understand congestion (only applicable to road users with number plates).

Occupancy: Find out how many road users are occupying a zone to understand road congestion or pedestrian behaviour near crossings.

Dwell Time: Understand how long road users are stationary in a zone to estimate delays for road user around a junction or assess high street usage.

Turning Counts: Understand how road users move through a junction and identify safety risks.

Speed: Get data on speed either at a single location or within a zone to understand speed compliance or slow moving traffic (congestion).

Near Miss: Identify where in the road space road users are most vulnerable to accidents. Use this data to initiate safety enhancements and make roads safer for active travel users.

Methodology I



Before analysis, the data was cleaned and processed as follows.

Exclude school and bank holidays

School holidays:

- 2022-02-14 to 2022-02-18
- 2022-04-04 to 2022-04-19
- 2022-05-02 to 2022-05-02
- 2022-05-30 to 2022-06-03
- 2022-07-25 to 2022-09-02
- 2022-10-24 to 2022-10-28

Bank holidays (2022-04-15, 2022-04-17, 2022-04-18, 2022-05-02, 2022-06-02, 2022-06-03, 2022-08-29, 2022-09-19, 2022-12-25, 2022-12-26, 2022-12-27).

Time periods

Only counts between 7am and 7pm were included in the analysis. 15 minute time buckets were classed into the following groups:

- AM: Morning restricted times
- PM: Afternoon restricted times
- Any: Any restricted times (AM/PM or daytime)
- Offset: 15 min before and after any restricted times
- None: Unrestricted times with more than 15 min before and after restrictions

Estimate average hourly counts

To compare counts from 15 minute time buckets against hourly thresholds, the following method was applied:

Mean hourly counts = Mean 15min counts during restricted hours * 4

Estimated hourly counts are therefore not equivalent to the real counts observed at the sites during the exact times.

Methodology II



Other data exclusions

Data for ARK Atwood Academy was excluded from July onwards as tree growth blocked the sensor's view. An outlier on the 22/11/2022 was excluded for Hampden Gurney.

Data tables: S2 ARK Atwood Academy Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffic	;				Ped	estrian					Сус	list		
Month	АМ	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Jan	110	86	100	78	50	76	582	708	632	308	92	344	10	8	9	7	4	7
Feb	91	78	86	81	49	72	570	609	585	311	93	330	8	9	9	7	5	7
Mar	95	93	94	73	50	72	531	530	530	254	93	292	9	7	8	6	5	6
Apr	100	82	93	67	47	69	501	432	474	283	87	281	11	7	9	7	6	7
May	93	71	84	72	47	68	448	352	409	265	88	254	10	7	9	6	6	7
Jun	92	80	87	75	46	69	332	243	296	203	70	190	16	13	15	10	7	11
Total	95	81	89	74	48	70	478	445	464	261	86	270	11	9	10	7	5	7

Data tables: ARK Atwood Academy Primary School II



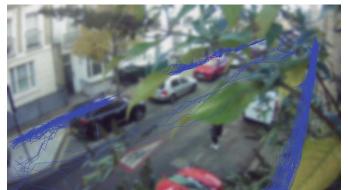
Traffic volumes by road user type inside and outside restricted hours by day of the week

Average hourly counts

			Moto	rised traff	ic				Pede	strian					Сус	list		
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Mon	94	83	90	78	46	71	484	464	476	272	87	278	11	7	10	7	5	7
Tue	98	82	92	73	45	70	458	460	459	245	80	261	10	7	9	7	5	7
Wed	94	82	89	74	49	71	513	476	499	255	87	280	12	10	11	8	6	8
Thu	99	77	90	70	48	69	475	408	448	267	86	267	12	9	11	8	5	8
Fri	88	83	86	76	52	71	456	418	441	267	91	266	8	9	8	7	5	7
Total	95	81	89	74	48	70	478	445	464	261	86	270	11	9	10	7	5	7



Cyclist movements, school start Wed 16/03/2022 8:15-9:00



Pedestrian movements midday

Wed 16/03/2022 12:00-13:00

Data tables: S4 George Eliot Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffi	:				Pede	estrian					Сус	list		
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Apr	35	45	40	65	42	49	165	177	171	107	67	115	1	2	2	1	3	2
May	36	45	40	64	43	49	166	204	185	123	68	125	3	3	3	2	3	3
Jun	44	44	44	62	40	49	164	195	179	106	62	116	6	4	5	2	3	3
Jul	35	38	37	46	31	38	149	147	148	84	50	94	4	2	3	3	2	3
Aug																		
Sep	44	55	49	69	45	54	125	165	145	105	60	103	2	3	2	2	3	2
Oct	45	50	47	59	42	49	126	139	132	85	51	89	3	2	3	3	2	3
Nov	40	50	45	76	47	56	137	169	153	109	50	104	3	3	3	3	2	3
Total	40	47	44	64	42	50	146	172	159	104	58	107	3	3	3	3	3	3

Data tables: George Eliot Primary School II



Traffic volumes by road user type inside and outside restricted hours by day of the week

			Motori	ised traffi	C				Pede	estrian					Сус	list		
Month	AM	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Mon	39	46	42	62	40	48	142	160	151	106	57	105	4	2	3	2	2	2
Tue	40	43	42	60	40	47	143	155	149	100	58	102	4	2	3	3	3	3
Wed	38	43	40	64	41	48	144	154	149	104	60	104	3	3	3	3	3	3
Thu	42	44	43	63	43	50	154	165	159	107	60	109	3	3	3	2	3	3
Fri	40	59	50	68	44	54	148	222	185	101	55	114	3	4	3	3	3	3
Total	40	47	44	64	42	50	146	172	159	104	58	107	3	3	3	3	3	3



Cyclist movements, school start Wed 09/11/2022 8:30-9:30



Pedestrian movements midday Wed 09/11/2022 12:00-13:00

Data tables: S7 All Souls CE Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

		Motori	sed traffic			Pedestr	ian			Сус	list	
Month	Any	Offset	None	Total	Any	Offset	None	Total	Any	Offset	None	Total
Jan	2	6	7	5	144	112	83	113	11	7	10	9
Feb	1	6	6	4	162	128	96	129	10	9	11	10
Mar	2	7	9	6	182	146	112	147	14	13	13	13
Apr	2	8	8	6	175	151	124	150	11	16	12	13
May	2	8	10	7	179	145	123	149	13	16	15	15
Jun	3	8	9	7	165	141	107	138	16	21	17	18
Jul	3	17	23	14	171	135	109	138	15	18	18	17
Aug												
Sep	3	11	14	9	188	151	109	149	12	15	15	14
Oct	3	13	12	9	208	156	118	161	13	17	15	15
Nov	4	19	15	13	188	146	115	150	14	15	16	15
Total	3	11	12	9	179	144	111	145	13	15	15	14

Data tables: All Souls CE Primary School II

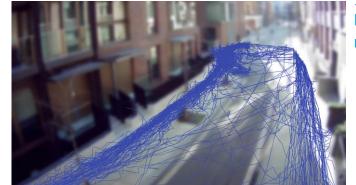


Traffic volumes by road user type inside and outside restricted hours by day of the week

		Motori	sed traffic			Pe	edestrian			Сус	list	
Month	Any	Offset	None	Total	Any	Offset	None	Total	Any	Offset	None	Total
Mon	2	9	9	7	162	130	96	129	12	14	14	13
Tue	3	9	12	8	190	147	112	150	14	17	16	16
Wed	3	11	11	8	187	152	122	154	13	17	16	15
Thu	3	12	13	9	194	162	128	161	14	17	15	15
Fri	3	13	13	10	163	125	96	128	12	12	12	12
Total	3	11	12	9	179	144	111	145	13	15	15	14



Cyclist movements, school start Wed 16/03/2022 8:30-9:30



Pedestrian movements midday Wed 16/03/2022 12:00-13:00

Data tables: S10 St Mary Magdalene's CE Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffic	;				Pede	estrian					Сус	list		
Month	AM	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Sep	38	33	36	23	11	23	161	184	173	61	34	89	1	5	3	1	2	2
Oct	42	35	39	22	12	24	173	195	184	56	36	92	5	4	4	2	3	3
Nov	43	34	39	25	12	25	159	164	162	52	33	82	2	2	2	1	1	1
Total	42	34	38	23	12	24	164	179	172	56	34	87	2	4	3	1	2	2

Data tables: St Mary Magdalene's CE Primary School II



Traffic volumes by road user type inside and outside restricted hours by day of the week

Average hourly counts

			Motori	sed traffi	C				Pede	estrian					Сус	list		
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Mon	43	38	41	24	12	26	166	203	185	49	38	91	2	4	3	2	2	2
Tue	40	30	35	24	11	23	166	178	172	54	33	86	3	2	2	1	1	1
Wed	42	34	38	24	11	24	170	163	166	61	33	87	2	3	2	2	2	2
Thu	42	30	36	21	12	23	174	165	170	57	35	87	2	5	4	1	2	2
Fri	41	38	39	24	13	25	145	188	166	57	32	85	3	5	4	1	2	2
Total	42	34	38	23	12	24	164	179	172	56	34	87	2	4	3	1	2	2



Cyclist movements, school start Wed 12/10/2022 8:15-9:15



Pedestrian movements midday

Wed 12/10/2022 12:00-13:00

Data tables: S13 Barrow Hill Juniors I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffi	C				Pede	estrian					Сус	list		
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
May	5	7	6	22	18	15	271	403	337	54	37	143	13	11	12	3	2	6
Jun	2	8	5	18	19	14	282	367	325	57	34	139	9	9	9	3	2	5
Jul	4	8	6	17	19	14	233	316	274	50	35	120	10	10	10	2	2	5
Aug																		
Sep	4	5	4	19	19	14	273	394	334	60	30	141	9	12	11	3	2	5
Oct	4	8	6	18	20	15	245	380	313	64	35	137	7	11	9	3	2	5
Nov	3	8	6	18	19	14	263	351	307	55	26	129	5	9	7	3	1	4
Total	3	7	5	18	19	14	261	363	312	57	32	134	8	10	9	3	2	5

Data tables: Barrow Hill Juniors II



Traffic volumes by road user type inside and outside restricted hours by day of the week

			Motori	sed traffic	:				Pede	estrian					Сус	list		
Month	AM	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Mon	3	7	5	17	17	13	258	337	297	59	32	129	7	7	7	3	2	4
Tue	5	6	5	16	18	13	252	350	301	52	29	127	9	9	9	3	2	5
Wed	3	8	6	17	19	14	277	362	319	56	31	135	8	8	8	2	2	4
Thu	3	9	6	19	21	15	247	349	298	50	32	127	8	13	10	3	2	5
Fri	4	7	5	21	21	16	271	416	344	69	35	149	9	13	11	2	2	5
Total	3	7	5	18	19	14	261	363	312	57	32	134	8	10	9	3	2	5



Cyclist movements, school start Wed 12/10/2022 8:30-9:00



Pedestrian movements midday Wed 12/10/2022 12:00-13:00

Data tables: S14 Hampden Gurney CE Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffic	;				Pede	estrian					Сус	list		
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Sep	3	5	4	10	11	8	159	244	201	80	66	116	15	15	15	5	4	8
Oct	3	4	4	9	12	8	157	240	198	92	75	122	17	17	17	4	4	8
Nov	2	5	4	9	12	8	155	244	200	85	70	118	16	17	17	5	4	9
Total	3	5	4	9	12	8	157	243	200	86	71	119	16	16	16	5	4	8

Data tables: Hampden Gurney CE Primary School II



Traffic volumes by road user type inside and outside restricted hours by day of the week

			Motori	ised traffi	C				Pede	estrian					Сус	list		
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Mon	4	6	5	8	12	8	145	253	199	88	68	118	16	18	17	4	5	9
Tue	2	7	5	11	11	9	165	249	207	85	74	122	19	15	17	7	4	9
Wed	2	5	3	8	11	7	155	241	198	78	69	115	15	15	15	4	4	8
Thu	2	3	3	10	12	8	172	249	211	96	72	126	16	15	15	6	4	8
Fri	3	4	3	9	11	8	149	223	186	82	69	112	16	19	17	4	4	8
Total	3	5	4	9	12	8	157	243	200	86	71	119	16	16	16	5	4	8



Cyclist movements, school start Wed 12/10/2022 8:45-9:30



Pedestrian movements midday Wed 12/10/2022 12:00-13:00

Data tables: S15 Queens Park Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffic	;				Pede	estrian		Cyclist							
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	
May	24	31	27	32	39	33	263	295	277	134	103	171	13	7	11	6	3	7	
Jun	22	24	23	31	34	29	270	295	280	110	83	158	13	7	10	5	5	7	
Jul	23	28	25	35	35	32	201	202	202	106	78	129	17	8	13	8	6	9	
Aug																			
Sep	27	32	29	37	39	35	246	286	263	121	75	153	13	8	11	6	5	7	
Oct	28	31	29	38	38	35	244	276	257	117	78	151	11	5	9	4	5	6	
Nov	28	31	30	39	40	36	248	249	248	115	80	148	10	5	8	5	4	6	
Total	26	29	27	36	37	33	244	263	252	114	79	148	13	6	10	5	5	7	

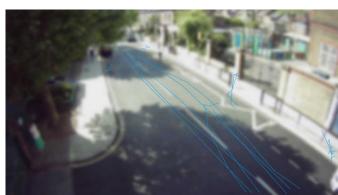
Data tables: Queens Park Primary School II



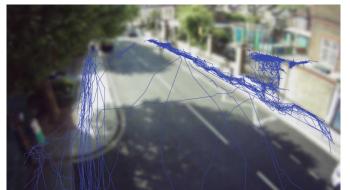
Traffic volumes by road user type inside and outside restricted hours by day of the week

Average hourly counts

			Motori	sed traffi	:				Pede	estrian		Cyclist						
Month	AM	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
Mon	25	29	27	36	35	33	238	273	253	96	74	141	11	5	9	5	5	6
Tue	27	30	28	35	37	33	241	253	247	109	78	145	14	7	11	6	5	7
Wed	27	28	28	35	38	34	258	248	254	124	83	154	13	6	10	5	5	7
Thu	25	30	27	35	38	33	237	264	248	118	82	149	14	7	11	5	5	7
Fri	24	30	27	39	40	35	244	277	258	124	80	154	12	7	10	6	5	7
Total	26	29	27	36	37	33	244	263	252	114	79	148	13	6	10	5	5	7



Cyclist movements, school start Wed 12/10/2022 8:30-9:00



Pedestrian movements midday

Wed 12/10/2022 12:00-13:00

Data tables: S18 St Matthew's CE Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	sed traffic	:				Pede	estrian		Cyclist						
Month	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total
May	9	9	9	20	23	17	184	151	167	92	110	123	34	7	20	20	12	17
Jun	8	7	8	17	23	16	182	152	167	102	108	126	45	8	26	25	15	22
Jul	8	8	8	18	23	16	174	130	152	105	110	122	43	6	25	22	14	20
Aug																		
Sep	13	12	13	24	26	21	183	194	189	125	126	147	53	8	31	24	15	23
Oct	8	9	8	22	24	18	194	160	177	121	112	137	48	6	27	21	12	20
Nov	10	9	10	30	34	25	196	164	180	110	111	134	43	6	24	20	12	19
Total	9	9	9	23	26	19	186	161	173	112	113	133	46	7	26	22	14	21

Data tables: St Matthew's CE Primary School II

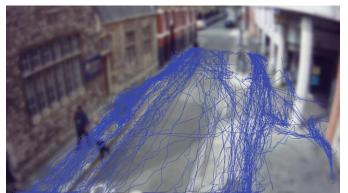


Traffic volumes by road user type inside and outside restricted hours by day of the week

			Motori	sed traffi	C		Pedestrian							Cyclist						
Month	AM	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total		
Mon	9	9	9	22	25	19	170	145	157	100	100	119	46	5	25	20	13	19		
Tue	10	9	10	23	27	20	203	155	179	120	121	140	55	8	32	27	15	25		
Wed	11	9	10	26	28	21	220	205	212	144	131	162	55	8	31	27	16	25		
Thu	9	9	9	22	27	19	197	158	178	114	121	138	51	7	29	23	14	22		
Fri	8	9	8	20	25	18	140	140	140	82	93	105	23	7	15	14	9	13		
Total	9	9	9	23	26	19	186	161	173	112	113	133	46	7	26	22	14	21		



Cyclist movements, school start Wed 12/10/2022 8:30-9:30



Pedestrian movements midday Wed 112/10/2022 12:00-13:00

Data tables: S19 St Peter's Eaton Square CE Primary School I



Traffic volumes by road user type during restricted and unrestricted times by month

			Motori	;		Pedestrian							Cyclist						
Month	AM	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	
Sep	21	33	27	30	36	31	685	1162	923	347	332	534	17	17	17	13	15	15	
Oct	13	28	20	34	38	31	681	1112	897	323	327	516	11	14	13	12	14	13	
Nov	19	33	26	44	55	42	653	1043	848	320	317	495	12	16	14	11	14	13	
Total	18	32	25	37	44	35	670	1098	884	328	324	512	13	16	14	12	14	13	

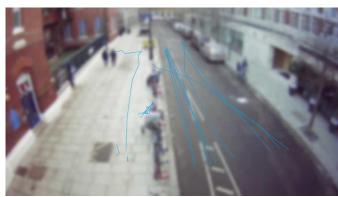
Data tables: St Peter's Eaton Square CE Primary School II



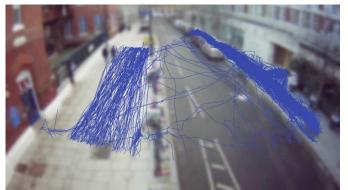
Traffic volumes by road user type inside and outside restricted hours by day of the week

Average hourly counts

			Motori	sed traffic	:		Pedestrian							Cyclist						
Month	АМ	РМ	Any	Offset	None	Total	AM	PM	Any	Offset	None	Total	АМ	PM	Any	Offset	None	Total		
Mon	19	29	24	36	42	34	634	917	775	279	291	448	11	15	13	10	13	12		
Tue	16	29	22	37	46	35	673	992	832	327	335	498	14	13	14	12	14	13		
Wed	17	33	25	37	44	35	700	1062	881	349	342	524	14	16	15	12	14	14		
Thu	21	31	26	40	49	38	665	1036	850	345	338	511	14	15	14	14	16	15		
Fri	16	35	26	35	41	34	676	1460	1068	340	312	573	12	19	15	12	14	14		
Total	18	32	25	37	44	35	670	1098	884	328	324	512	13	16	14	12	14	13		



Cyclist movements, school start Wed 12/10/2022 8:30-9:30



Pedestrian movements midday

Wed 12/10/2022 12:00-13:00

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